

Remarks

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 58 to 79 are pending in the application, with claims 58 and 67 being the independent claims. Claims 58 and 67 have been amended to further define the invention. Claims 62 and 71 have been amended to define the invention even more clearly. New claims 76 to 79 are added. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Claims 58-63, 66-72, and 75 were rejected under 35 U.S.C. § 102(b) as being anticipated by Grabbe et al. (U.S. Pat. No. 5,152,695). Claims 64-65 and 73-74 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Grabbe et al. (U.S. Pat. No. 5,152,695) in view of Smith et al. (U.S. Pat. No. 5,944,537). Applicants respectfully traverse.

The present invention is generally directed to a resilient contact structure disposed on a substrate through a passivation layer and at least one electrically conductive layer. According to a further feature, the at least one electrically conductive layer includes a shorting layer, a conductive layer, and a seed layer. The resilient contact structure has a base portion, a tip portion displaced away from the substrate and the conductive area, and a beam portion between the base portion and the tip portion.

Further, the shape of the beam portion is such that a length extends from the base portion to the tip portion, and a width of the beam portion decreases along the length from the base portion to the tip portion.

At the very least, neither Grabbe nor Smith, taken alone or in combination, recite a substrate including a conductive area, a passivation layer, at least one electrically conductive layer, and a resilient, conductive contact structure, as recited in each of the amended independent claims 58 and 67. Grabbe merely describes cantilever spring arms 22. No teaching or suggestion of a passivation layer and at least one electrically conductive layer is provided in Grabbe. Smith merely recites a spring contact 15 attached to a contact pad 3 (FIG. 10). Further, no motivation or suggestion to combine Grabbe and Smith is provided in either reference.

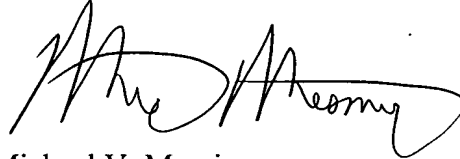
Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully
requested.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

A handwritten signature in black ink, appearing to read "Michael V. Messinger", written over a horizontal line.

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Version with markings to show changes made

58. (Amended) An electronic component comprising:
a substrate including a conductive area; [and]
a passivation layer disposed on a surface of said substrate, said passivation layer having an opening at said conductive area of said substrate;
at least one electrically conductive layer disposed on said passivation layer and on said conductive area of said substrate; and
a resilient, conductive contact structure comprising a base portion [attached to] electrically coupled through said at least one at least one electrically conductive layer to said conductive area of said substrate, a tip portion displaced away from said substrate and said conductive area, and a beam portion between said base portion and said tip portion, wherein:
a length of said beam portion extends from said base portion to said tip portion, and
a width of said beam portion decreases along said length from said base portion to said tip portion.
62. (Amended) The electronic component of claim 58, wherein said substrate [composes] comprises a semiconductor device.
67. (Amended) An electronics system comprising:
a first substrate including a conductive area; [and]
a passivation layer disposed on a surface of said first substrate, said passivation layer having an opening at said conductive area of said first substrate;
at least one electrically conductive layer disposed on said passivation layer and on said conductive area of said first substrate; and
a resilient conductive contact structure comprising a base portion [attached to] electrically coupled through said at least one at least one electrically conductive layer to said conductive area of said first substrate, a tip portion displaced away from said first substrate, and a beam portion between said base portion and said tip portion, wherein a length of said beam portion extends from said base portion to said tip portion, and a width of said beam portion decreases along said length from said base portion to said tip portion; and
a second substrate including a conductive contact element in physical contact with said contact structure and deflecting said contact structure, said contact structure exerting a force against said contact element due to said resiliency of said contact structure.
71. (Amended) The electronics system of claim 67, wherein said first substrate [composes] comprises a semiconductive device.